

FERC Conference on Software Issues in Standard Market Design



Prepared For
FERC
Conference
February 7, 2002

Presented
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Outline

- About EPRI
- Status of Understanding Markets
- Hedging Approach to Standards
- Efficient Markets Developments
- Towards Common and Deeper Understanding
- Conclusions
- Appendix: Benefits of CIM and API

About EPRI

- EPRI is a not-for-profit research and development corporation based in Palo Alto, California.
- Members of EPRI represent every aspect of the electricity industry from Public Power and traditional utilities to Merchant Generation and Energy Marketers.
- EPRI members come from more than 20 countries around the world.

Status of Understanding Markets

- The current status of restructuring is one in which we should not presume to have all the final answers.
- Perhaps 10 years from today, we may be justified some confidence in our abilities.

Hedging Approach to Standards

- This situation strongly implies that the strategy for setting any standards should be to avoid over-committing to any single approach.
- Instead, what would be most valuable at this time, would be to devise and put into place a process for setting standards that can evolve in conjunction with technology developments, market developments, and our own understanding.

Efficient Market Developments

- A natural result of standardized communications will be to modularize markets and their components.
- In turn, modularity allows for substitution of multiple processes and multiple vendor solutions, which leaves options open and promotes competition among vendors.
- Our experience is that no single organizing factor is more powerful in the efficient development of power system infrastructure than standardized communications.

Towards Common and Deeper Understanding

- A valuable and fertile goal to guide the standards process is toward the development of common understanding drawing on the best knowledge .
- This means that we can safely develop standard terminology and standard methods for the exchange of information (standardizing interfaces).
- In this way, the power industry can become better able to interact across broader and broader regions and to include more diverse stakeholders.

Conclusions

- EPRI is primarily a technology company with a mission to foster public benefit.
- Our strong expertise and experience in managing successful standards efforts for the benefit of our members and the public in general can be directly applied to the need for developing new industry standards for Competitive Electricity Markets.

Appendix: Data Exchange Standards

- Standards are of critical importance
- Communication Protocol (ICCP)
 - Allows large data sharing; designed and tested in 95-97! Used worldwide (TASE.2)
- Data Structure (CIM)
 - Initial design 6/96; Solid industry acceptance; Interoperability tests(2001)
- Software Specification (API)
 - Builds on CIM; USA approved 11/2001

Benefits of CIM - *Own your data !*

- Break Down Proprietary Boundaries
- Increase Information Accessibility
- Organize Critical Data
- Utilities Speak Universal Technical Language
- Bottom Line Improvement from:
 - reduced data duplication
 - fewer data entry errors
 - minimum error duplication

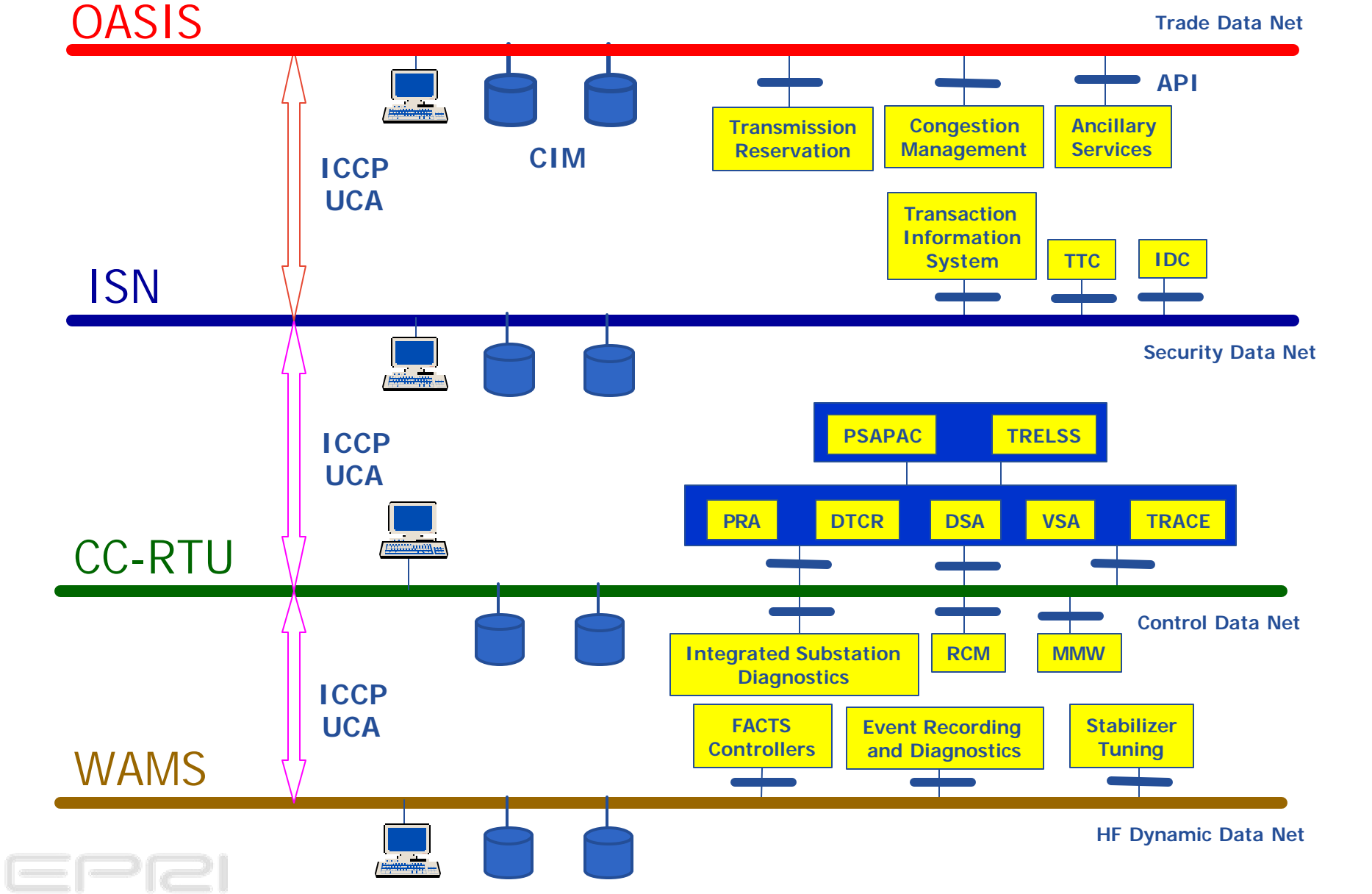
Why is API important?

- Interface between application software and data base environment
- Standard API opens software architecture to third parties
- Immediate benefits:
 - Application program is a component that can work with any database, messaging system or data model
 - Application program is simpler; e.g. 10:1 reduction in lines of executable code
 - Components can be reused in many different applications.

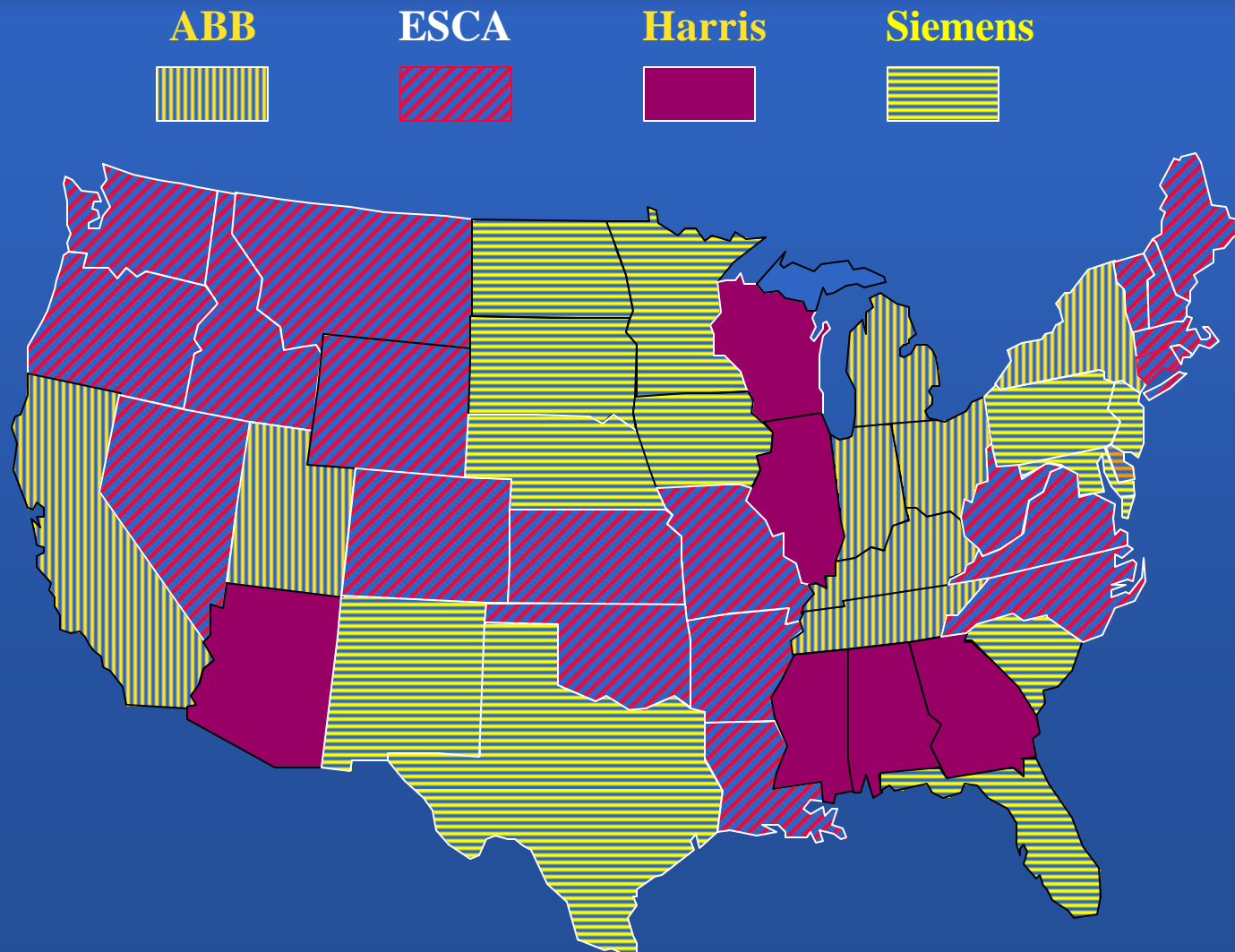
CIM Initiatives

- EPRI Power Delivery Reliability Initiative for Summer 2001
 - CIM data base for all Security Coordinators
- California Initiative for 2000-2001
 - Develop CIM for CA-ISO and WSCC
 - Assist in developing applications running on the CIM compliant database
 - OTS, Topology Estimator

Infrastructure Systems for On-Line Trade, Security and Control



U.S. Coverage with Proprietary Network Models



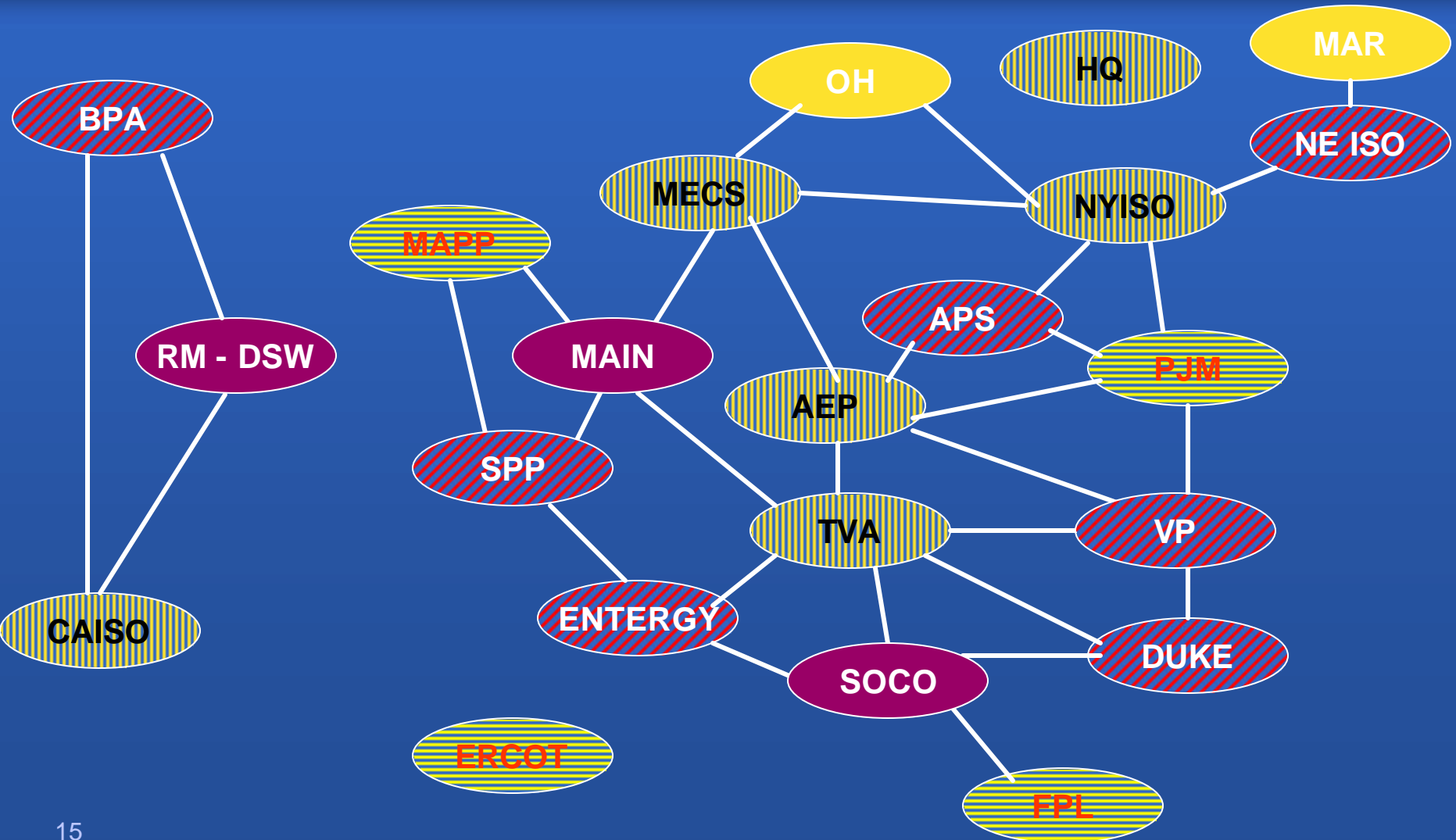
Security Coordinator Systems

ABB 

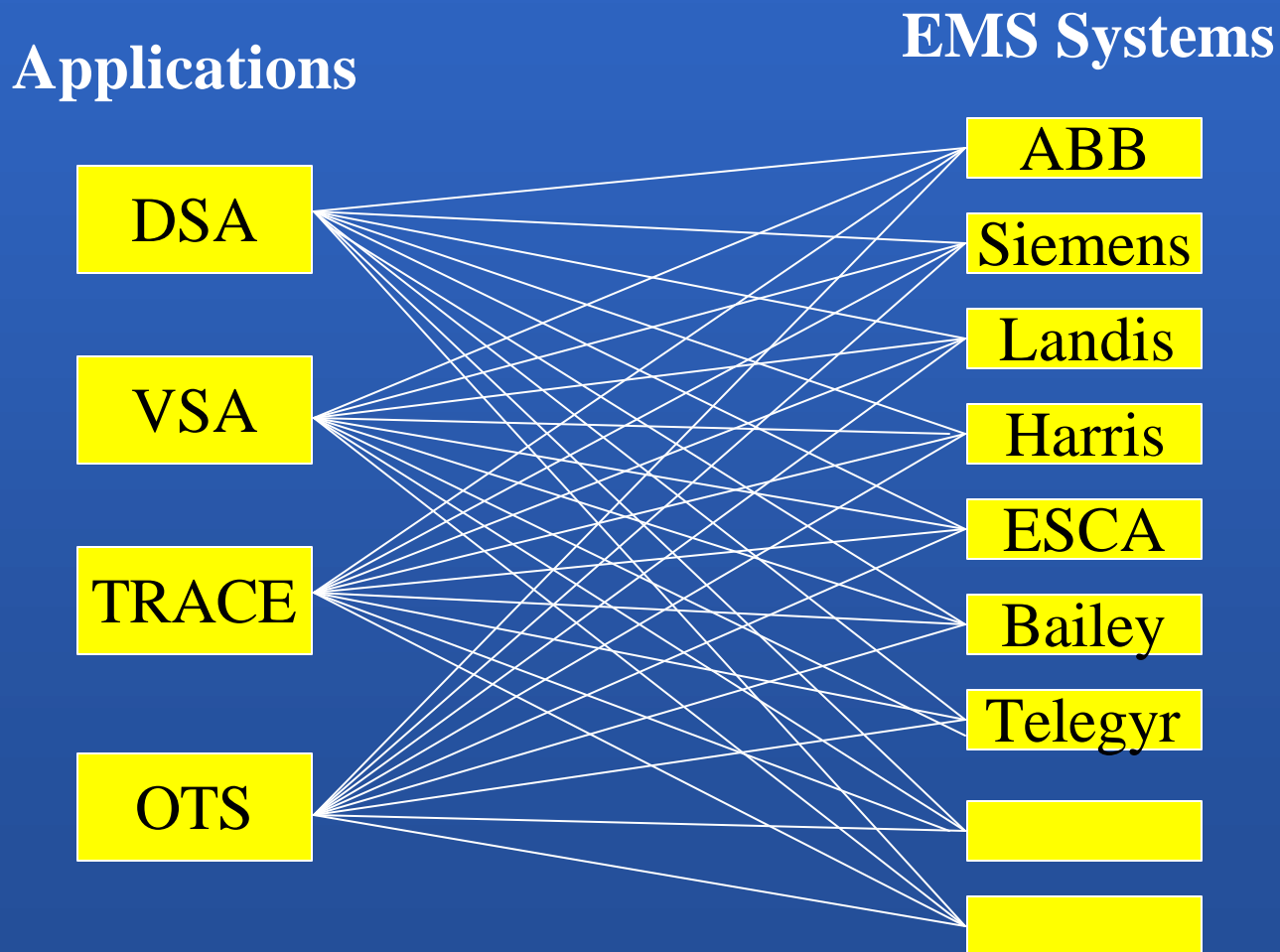
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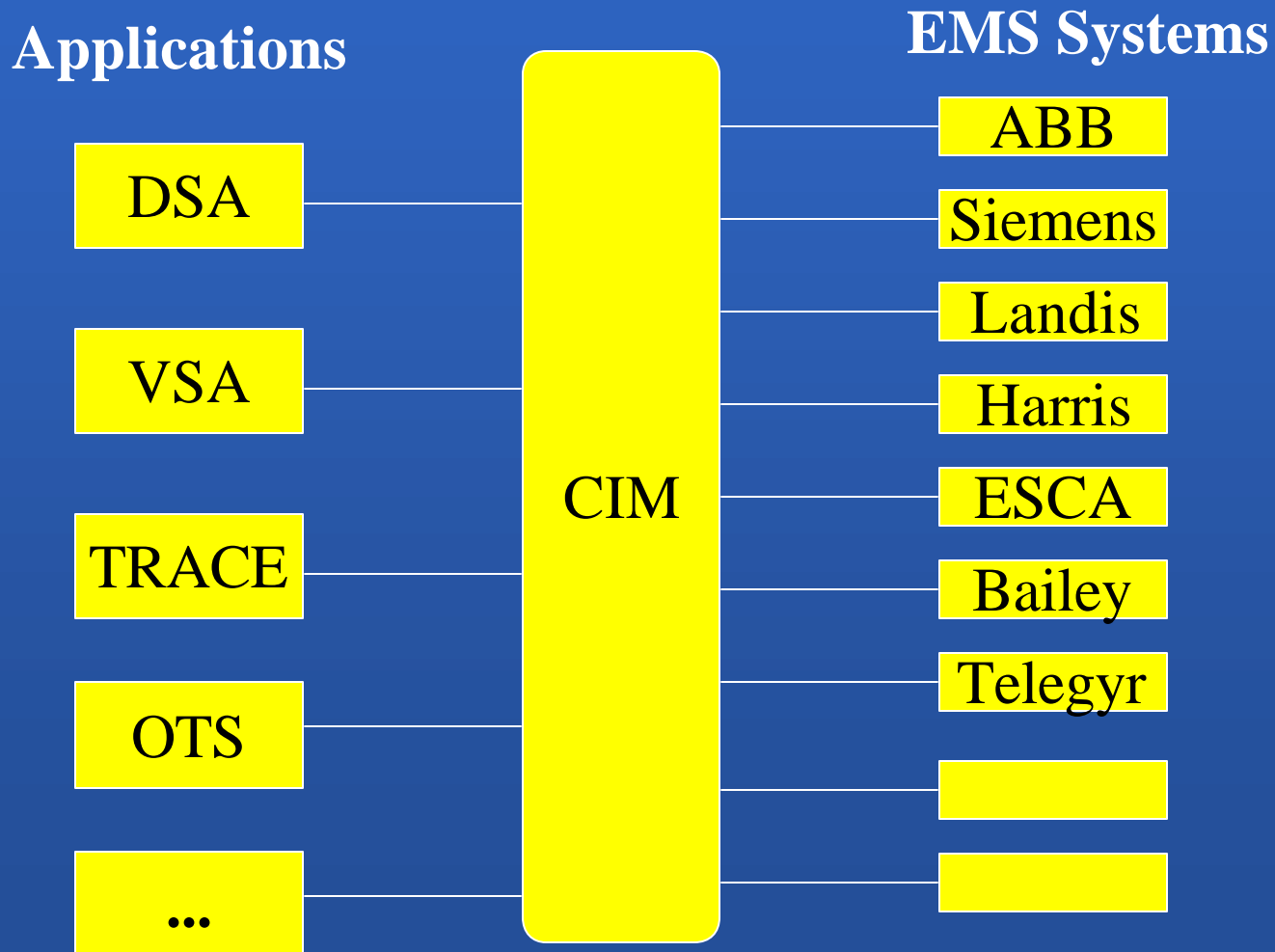
Siemens 



Past Method of Interfacing On-line Security Applications



New Method of Interfacing On-line Security Applications



Flexible Open Architecture for Application/Data Integration Using CIM/API

